

इंटरनेट

मानक

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IS 4206 (1987): Dimensions for nominal lengths and thread lengths for bolts, screws and studs [PGD 31: Bolts, Nuts and Fasteners Accessories]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard***DIMENSIONS FOR NOMINAL LENGTHS AND THREAD  
LENGTHS FOR BOLTS, SCREWS AND STUDS***( First Revision )***( ISO Title : Bolts, Screws and Studs – Nominal Lengths,  
and Thread Lengths for General Purpose Bolts )****National Foreword**

This Indian Standard ( First Revision ), which is identical with ISO 888-1976 'Bolts, screws and studs — Nominal lengths, and thread lengths for general purpose bolts' issued by the International Organization for Standardization ( ISO ), was adopted by the Indian Standards Institution on the recommendation of the Bolts, Nuts and Fasteners Accessories Sectional Committee and approval of the Mechanical Engineering Division Council.

The original version of this standard was published in 1967. The revision of the standard has been made by adoption of ISO 888-1976 to bring it in line with International Standard.

In the adopted standard certain terminology and conventions are not identical with those used in Indian Standards; attention is specially drawn to the following:

Comma ( , ) has been used as a decimal marker while in Indian Standards the current practice is to use point ( . ) as the decimal marker.

Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

Adopted 7 January 1987

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**1 SCOPE AND FIELD OF APPLICATION**

This International Standard specifies nominal lengths for bolts, screws and studs, and thread lengths for general purpose bolts.

**2 REFERENCE**

ISO 225, *Bolts, screws and studs – Dimensioning.*

**3 NOMINAL LENGTHS FOR BOLTS, SCREWS AND STUDS**

The basic dimensions shown in table 1 apply to the nominal lengths of bolts and screws (for example : hexagon bolts,

slotted head screws, cross recess head screws) and studs of both metric and inch sizes. Table 1 indicates the comparable basic lengths in the two systems, but values are not intended to be identical.

Lengths in brackets should be avoided as far as possible.

For dimensioning of nominal lengths, see ISO 225.

**4 THREAD LENGTHS FOR GENERAL PURPOSE BOLTS**

The thread lengths shown in tables 2, 3 and 4 apply to bolts (for example : hexagon bolts) of both metric and inch sizes. Table 2 contains the formulae on which the calculation of the thread lengths indicated in tables 3 and 4 was based.

For dimensioning of thread lengths, see ISO 225.

TABLE 1 – Basic dimensions in millimetres and in inches

Nominal length /		Nominal length /	
mm	in	mm	in
2	1/16	60	—
2,5	3/32	65	2 1/2
3	1/8	70	2 3/4
4	5/32	75	3
5	3/16	80	3 1/4
6	1/4	85	—
(7)	—	90	3 1/2
8	5/16	(95)	3 3/4
(9)	—	100	4
10	3/8	(105)	4 1/4
(11)	7/16	110	4 1/2
12	1/2	(115)	—
14	9/16	120	4 3/4
16	5/8	(125)	—
(18)	—	130	5
20	3/4	140	5 1/2
(22)	7/8	150	6
25	1	160	—
(28)	1 1/8	170	6 1/2
30	1 1/4	180	7
(32)	—	190	7 1/2
35	1 3/8	200	8
(38)	—	220	9
40	1 1/2	240	—
45	1 3/4	260	10
50	2	280	11
55	2 1/4	300	12

TABLE 2 – Formulae – Dimensions in millimetres and inches

mm		
Nominal length /		Formulae for thread length <i>b</i>
over	to	
—	125	$2d + 6$
125	200	$2d + 12$
200	—	$2d + 25$

in		
Nominal length /		Formulae for thread length <i>b</i>
over	to	
—	5	$2d + 1/4$
5	8	$2d + 1/2$
8	—	$2d + 1$

*d* = nominal diameter of the bolt

TABLE 3 – Allocation of the thread lengths to the bolt diameters  
Dimensions in millimetres

Thread diameter <i>d</i>	1,6	2	2,5	3	4	5	6	7	8	10	12	14	16	18	20	
Thread length <i>b</i>	$l \leq 125$	9	10	11	12	14	16	18	20	22	26	30	34	38	42	46
	$125 < l \leq 200$	—	—	—	—	—	—	—	—	28	32	36	40	44	48	52
	$l > 200$	—	—	—	—	—	—	—	—	—	—	—	—	57	61	65

Thread diameter <i>d</i>	22	24	27	30	33	36	39	42	45	48	52	56	60	64	68	
Thread length <i>b</i>	$l \leq 125$	50	54	60	66	72	78	84	90	96	102	—	—	—	—	
	$125 < l \leq 200$	56	60	66	72	78	84	90	96	102	108	116	124	132	140	148
	$l > 200$	69	73	79	85	91	97	103	109	115	121	129	137	145	153	161

Thread diameter <i>d</i>	72	76	80	85	90	95	100	105	110	115	120	125	130	140	150
Thread length <i>b</i>	$l \leq 125$	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	$125 < l \leq 200$	156	164	172	182	192	—	—	—	—	—	—	—	—	—
	$l > 200$	169	177	185	195	205	215	225	235	245	255	265	275	285	305

TABLE 4 – Allocation of the thread lengths to the bolt diameters  
Dimensions in inches

Thread diameter <i>d</i>	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4	
Thread length <i>b</i>	$l \leq 5$	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
	$5 < l \leq 8$	—	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	2	2 1/4	2 1/2	2 3/4	3
	$l > 8$	—	—	—	—	—	—	—	—	2 3/4	3	3 1/4	3 1/2

Thread diameter <i>d</i>	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	
Thread length <i>b</i>	$l \leq 5$	3	3 1/4	3 3/4	4 1/4	—	—	—	—	—	—	—	
	$5 < l \leq 8$	3 1/4	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	—	—
	$l > 8$	3 3/4	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9